

U.S. DEPARTMENT OF COMMERCE
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY-NIST
(formerly National Bureau of Standards-NBS)

COMMERCIAL STANDARD CS192-53

GENERAL PURPOSE VINYL PLASTIC FILM

Commercial Standard CS192-53, General Purpose Vinyl Plastic Film, was withdrawn by the U.S. Department of Commerce.

The following standard was used to replace CS192-53: **ANSI/BIA V101-1984**, Loose Leaf Binder Specifications for Virgin Vinyl. For information on this standard and/or copies, contact:

Binding Industries of America (BIA)
70 East Lake Street
Chicago, Illinois 60601-5907, USA
Telephone: (312) 373-7606
Fax: (312) 704-5025

American National Standards Institute (ANSI)
11 West 42nd Street, 13th Floor
New York, New York 10036, USA
Telephone: (212) 642-4900; e-mail: info@ansi.org
Fax: (212) 302-1286 orders only, or (212) 398-0023

The following organizations can also provide assistance and information pertaining their standards, contact:

The Society of the Plastics Industry (SPI)
1275 K Street, NW, Suite 400
Washington, DC 20005, USA
Telephone: (202) 371-5200
Fax: (202) 371-1022

American Society of Testing and Materials (ASTM)
100 Barr Harbor Drive
West Conshohocken, Pennsylvania 19428-2959, USA
Telephone: (610) 832-9500/-9585
Fax: (610) 832-9555, e-mail: service@astm.org

ASTM Technical Committee D20 on Plastics
Telephone: (610) 832-9721; Technical Committees Fax: (610) 832-9666

WITHDRAWN**Commercial Standard 192-53**

General Purpose Vinyl Plastic Film**A RECORDED VOLUNTARY STANDARD OF THE TRADE**

COMMODITY STANDARDS

Simplified Practice Recommendations and Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Industry and Commerce, Bureau of Foreign and Domestic Commerce, and with the National Bureau of Standards.

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The adoption and use of a Simplified Practice Recommendation or a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

A Simplified Practice Recommendation or a Commercial Standard originates with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The Division, by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the Division assures continuous servicing of each effective Simplified Practice Recommendation and Commercial Standard, through review and revision, whenever, in the opinion of the industry, changing conditions warrant such action. Simplified Practice Recommendations and Commercial Standards are printed and made available by the Department of Commerce through the Government Printing Office and the Department of Commerce field offices.

UNITED STATES DEPARTMENT OF COMMERCE**Sinclair Weeks, Secretary**



U. S. DEPARTMENT OF COMMERCE

SINCLAIR WEEKS, Secretary

**BUREAU OF FOREIGN AND DOMESTIC
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General Purpose Vinyl Plastic Film

[Effective May 22, 1953]

1. PURPOSE, SCOPE, AND GENERAL DESCRIPTION OF PRODUCTS COVERED

1.1 *Purpose.*—The purpose of this Commercial Standard is to promulgate minimum standards for vinyl plastic film in order to maintain the quality of the materials in question for the mutual protection of manufacturers and consumers.

1.2 *Scope.*—This standard covers methods of test and requirements for general purpose vinyl plastic film to insure satisfactory products for consumer use. The requirements and methods of test specify thickness tolerances, yield per roll, width tolerances, shrinkage at elevated temperatures, contamination, appearance, crocking, tensile properties, tear resistance, volatility of plasticizer, water extraction, low-temperature impact, and flammability. Suggested forms for declaring compliance with the standard and an identifying hallmark are included.

1.3 *General description of products covered.*—The material covered is nonrigid, unsupported, vinyl plastic film 10 mils and less in thickness, including transparent, translucent, and opaque material, whether plain, embossed, molded or otherwise surface treated.

2. DIMENSIONAL TOLERANCES

2.1 *Thickness.*—The average thickness of the film shall be within ± 10 percent of that specified. The average thickness shall be determined from five uniformly spaced readings taken across the width of the sheet. The referee test method for average thickness shall be the method described in paragraph 4.1.

2.1.1 *Average thickness based on yield per roll.*—The yield of material in any one roll shall be based on average thickness of the film, which shall be ± 5 percent of the thickness specified, calculated as follows:

$$\text{Average thickness (mils)} = \frac{770 \times \text{net weight (lb)}}{\text{specific gravity} \times \text{length (yd)} \times \text{width (in.)}}$$

2.2 *Width.*—The film shall be held to a tolerance of $+\frac{1}{2} - 0$ in. of the width specified by the purchaser and agreed to by the manufacturer. This tolerance shall apply when the material is in roll form on the core.

2.3 *Length.*—The length of material, excluding that which has been subjected to embossing, printing, etc., shall be continuous in any one roll, and the total length in a roll shall be as agreed to by the manufacturer and the purchaser.

3. REQUIREMENTS

3.1 *Shrinkage at elevated temperatures.*—The average dimensional change shall be not greater than 7 percent in any direction when the film is tested at a temperature of 100° C for 30 minutes in accordance with the method referred to in paragraph 4.2.

3.2 *Contamination.*—The material shall be as free as is commercially practicable from pinholes, particles of foreign matter, and undispersed raw materials. The material shall have no visible holes.

3.3 *Appearance.*—The material shall be as free as is commercially practicable from visual defects, e. g., "cold-checks," "crow's feet," "pine trees," "streaks," and "blisters." It shall also have smooth edges, free from cuts and nicks.

3.4 *Crocking.*—The amount of color transferred from the specimen under examination to the white test square shall not be perceptible when the material is tested in accordance with the method described in paragraph 4.3.

3.5 *Tensile properties.*—The minimum average tensile strength of the material, when tested in accordance with the method referred to in paragraph 4.4, shall be 2,100 psi when tested with the pendulum-type machine and 2,300 psi when a static-controlled separation-type machine is used. Either of these methods may be used. If the film meets the requirement by any one method, the film shall be considered as passed. The minimum ultimate elongation of the materials shall be 150 percent.

3.6 *Tensile tear resistance.*—The minimum average tensile tear strength of the film (either plain or after embossing, if embossed) in any direction shall be 200 lb/in. when tested in accordance with the method referred to in paragraph 4.5.

3.7 *Elmendorf tear resistance.*—The minimum average Elmendorf tear strength of the film (either plain or after embossing, if embossed) in any direction shall be 180 grams *per sheet* for film 3 mils or less in thickness, and 60 grams *per mil* for film greater than 3 mils in thickness, when tested in accordance with the method referred to in paragraph 4.6.

3.8 *Plasticizer volatility.*—The average weight loss based on initial film weight shall be not more than 10 percent for film 3 mils or less in thickness, 9 percent for film 4 mils, 7½ percent for film 6 mils, and 5 percent for film 8 mils in thickness, when tested at a temperature of 70° ± 2° C (158° ± 3.6° F) for 24 hours in accordance with the method referred to in paragraph 4.7.

3.9 *Water extraction.*—The material shall show not more than 1 percent average loss by weight when tested in accordance with the method referred to in paragraph 4.8.

3.10 *Low-temperature impact.*—Not more than 2 specimens out of 10 shall fail when tested at a temperature of -17.8° ± 2° C (0° ± 3.6° F) in accordance with the method described in paragraph 4.9.

3.11 *Flammability.*—The rate of burning shall not exceed 1.2 in./sec as judged by the average of five determinations lengthwise and five determinations transverse to the direction of processing, when the material is tested with the SPI flammability tester in accordance with the method described in paragraph 4.10.

NOTE.—*Light stability.* At the industry meeting on November 18, 1952, the desirability of including a requirement for light stability was discussed at some length.

The Society of the Plastics Industry (SPI) Committee which prepared this recommended Commercial Standard for general purpose vinyl plastic film recognized the value and need of such a requirement. However, after years of work by the SPI group, which was assigned the problem of selecting or developing a suitable method of test for light stability, as well as the enormous amount of work done by the American Society for Testing Materials and various governmental agencies, such as the National Bureau of Standards, no suitable method has been found or developed. Two major difficulties have been encountered: (1) the poor degree of reproducibility between different pieces of apparatus of the same type; (2) the poor degree of correlation between laboratory light stability tests and service behavior.

The SPI group working on light stability hopes to have a reasonably satisfactory method in a year or two. It was the opinion of the committee recommending this specification for promulgation as a Commercial Standard that it would be more of a detriment to the plastic film industry than a benefit to wait for another 2 years to issue this standard because of the lack of this one test. When a suitable test method is developed, the Commercial Standard can be revised. Any help which anyone can offer to the SPI group will be appreciated.

4. METHODS OF TESTS

4.1 *Average thickness (weight method).*

4.1.1 *Apparatus.*

- (a) Analytical balance, equipped with pan straddle or other stationary support, sensitive to 0.0005 gm.
- (b) Class S. weights.
- (c) Beaker, 250 ml.
- (d) Fine nonabsorbent thread or wire.
- (e) Thermometer, 0° to 100° C, graduated in 1° divisions.
- (f) Die or template, for cutting test specimens, 10 cm by 10 cm, with a dimensional tolerance of ± 0.01 cm per side.
- (g) Sharp knife or razor.

4.1.2 *Test specimens.*—Five 10-cm by 10-cm specimens taken uniformly across the width of the sheet shall be tested.

4.1.3 *Test conditions.*—The specimens shall be conditioned and tested in accordance with procedure A of ASTM¹ D618, Tentative Methods of Conditioning Plastics and Electrical Insulating Materials for Testing.

4.1.4 *Procedure.*

4.1.4.1 By means of the die or template and the sharp knife or razor, cut five specimens from the sample of material.

4.1.4.2 Weigh each specimen to the nearest 0.5 mg on the analytical balance. Record the weight as *W*.

4.1.4.3 Following the procedure of ASTM D792, Methods of Test for Specific Gravity of Plastics, method A, determine the specific gravity of each specimen and record as *D*. Use of a wetting agent is recommended.

4.1.5 *Calculations.*—Calculate the average thickness of each test specimen, using the following formula, and average the two values:

$$T = \frac{394W}{100D} = 3.94 \frac{W}{D}$$

where

T = average thickness of test specimen in mils

W = weight of test specimen in gm

D = density of test specimen in gm/cc (specific gravity = density in metric units)

394 = conversion factor, cm to mils

100 = area of specimen in sq cm

¹ American Society for Testing Materials.

4.2 *Shrinkage at elevated temperatures.*—The dimensional change shall be determined in accordance with ASTM D1204, Method of Test for Measurement of Changes in Linear Dimensions of Nonrigid Thermoplastics Sheet and Film.

4.3 *Crocking.*

4.3.1 *Definition.*—Colorfastness to rubbing (crocking) is understood to be resistance to physical transfer of color from the material tested to a piece of white cotton under the conditions of the test.

4.3.2 *Apparatus.*—AATCC Crockmeter. (Crockmeter and cloth, 2- by 2-in. test squares, may be obtained from the secretary of the American Association of Textile Chemists & Colorists, Lowell Textile Institute, Lowell, Mass.)

4.3.3 *Materials.*—White bleached cotton cloth, starch-free, cut into 2-in. test squares. Lawns, percales, or printcloths are suitable. (See par. 4.3.2).

4.3.4 *Test specimens.*—Two 2- by 5-in. specimens of film shall be used, one for the dry test and one for the wet test.

4.3.5 *Procedure.*—The test specimen shall be preconditioned in accordance with ASTM D618, procedure A, Tentative Methods of Conditioning Plastics and Electrical Insulating Materials for Testing. The test specimen shall then be placed on the base of the Crockmeter so as to rest flat on the abrasive cloth with its long dimension in the direction of the rubbing. The square of white testing cloth is mounted over the end of the finger which projects downward from the slide, with the weave oblique to the direction of rubbing, and is held in place by the spiral clip. The covered finger of the slide is then placed on the test specimen and is slid back and forth for 20 rubbings, that is, for 10 steady turns of the crank at the rate of 1 turn per second.

For wet rubbing (crocking) tests, the white testing square is thoroughly wet out in distilled water, squeezed, and then passed through a wringer between two sheets of filter paper just before use. Otherwise the procedure for wet rubbing is the same as for dry rubbing.

Accidental damage to the rubbing finger, spiral clip, or abrasive cloth may be repaired when noticeable as follows: The abrasive cloth is neatly renewed; the clip is bent further open or shut over an inserted rod of the correct diameter, as required; and the finger is resurfaced by movement on an extra piece of fine emery cloth in a manner simulating regular use.

4.4 *Tensile properties.*—The tensile strength and elongation shall be determined in accordance with method B of ASTM D882, Methods of Test for Tensile Properties of Thin Plastic Sheets and Films, using specimens 1 in. wide. The thickness of the specimens tested shall be determined as described in paragraph 4.1.

4.5 *Tensile tear resistance.*—The tensile tear strength shall be determined in accordance with ASTM D1004, Method of Test for Tear Resistance of Plastic Film and Sheet. The thickness of the specimens tested shall be determined as described in paragraph 4.1.

4.6 *Elmendorf tear resistance.*—The Elmendorf tear strength shall be determined in accordance with ASTM D689, Method of Test for Internal Tearing Resistance of Paper, except that readings obtained where the tear deviates more than 10 mm ($\frac{3}{8}$ in.) from the line of the initial slit shall not be rejected when obtained with embossed films. The thickness of the specimens tested shall be determined as described in paragraph 4.1.

4.7 *Plasticizer volatility*.—The plasticizer volatility shall be determined in accordance with ASTM D1203, Method of Test for Volatile Loss from Plastic Materials.

4.8 *Water extraction*.—The percentage loss in weight from extraction by distilled water shall be determined in accordance with ASTM D1239, Method of Test for Resistance of Plastic Films to Extraction by Chemicals, except that the specimens shall be preconditioned for 3 hours at $50^{\circ} \pm 3^{\circ} \text{ C}$ ($122^{\circ} \pm 5.4^{\circ} \text{ F}$), removed from the oven, placed in the desiccator, and allowed to cool to room temperature before weighing. Also, the immersion test shall be made for 24 hours at $50^{\circ} \pm 3^{\circ} \text{ C}$ ($122^{\circ} \pm 5.4^{\circ} \text{ F}$) in distilled water only.

4.9 *Low-temperature impact*.

4.9.1 *Apparatus*.—Cold chambers, at least 18 by 18 by 18 in., that open from the top are preferable. Dry-ice cabinets, cooled by circulated air and solid carbon dioxide, that are equipped with heater units perform well for this test.

The impact machine shown in figures 1 and 2 is constructed of cold-rolled steel except for the bolts, screws, and rubber stopper. All structural parts (i. e., base, anvil, arm, arm supports, and shaft) may be chromium-plated.

The arm including rubber stopper and bolt shall weigh 6 lb 13 oz, ± 1 oz.

Lubricants are not usually necessary. However, if lubrication is necessary, suitable low-temperature lubricants shall be used.

A 2- by $5\frac{1}{4}$ -in. die; a good desk-type stapler with metal base, and stop mounted on base exactly $\frac{1}{2}$ in. back of the center of the groove that turns the staple; 2- by 5-in. cards of regular 5- by 8-in. index-file-card stock.

4.9.2 *Procedure*.—The impact machine shall be in the cold chamber at $-17.8^{\circ} \pm 2^{\circ} \text{ C}$ ($0^{\circ} \pm 3.6^{\circ} \text{ F}$) at all times. The temperature shall be measured in close proximity to the test specimen.

Ten specimens shall be cut with a die with the long dimension parallel with the transverse direction of the film or sheet. Each 2- by $5\frac{1}{4}$ -in. specimen shall be cut and folded lengthwise with a normal loop at room temperature. The two ends of the folded specimen and one end of the 2- by 5-in. card shall be matched exactly, with the loop lying on the card. Two staples shall be crimped, $\frac{1}{2}$ in. from and parallel to the 2-in. end of the stack.

The mounted specimens with loops up shall be placed in the cold chamber at the desired testing temperature for a conditioning period of 1 hour.

The card with specimen (after conditioning) shall be placed on the anvil with the crimped ends of the staples on the back of the card fitted into the groove in the anvil. (See fig. 2.) The card shall be handled, not the sample. The arm shall be allowed to fall free from a position within 5 degrees off perpendicular to the base. In order to facilitate this, a mechanical release device may be employed. The arm shall then be raised, the sample on the card shall be removed from the anvil, and the next specimen shall be positioned and struck, and so forth.

The removed specimen shall be examined for failure, which shall consist of breaking into two or more pieces.

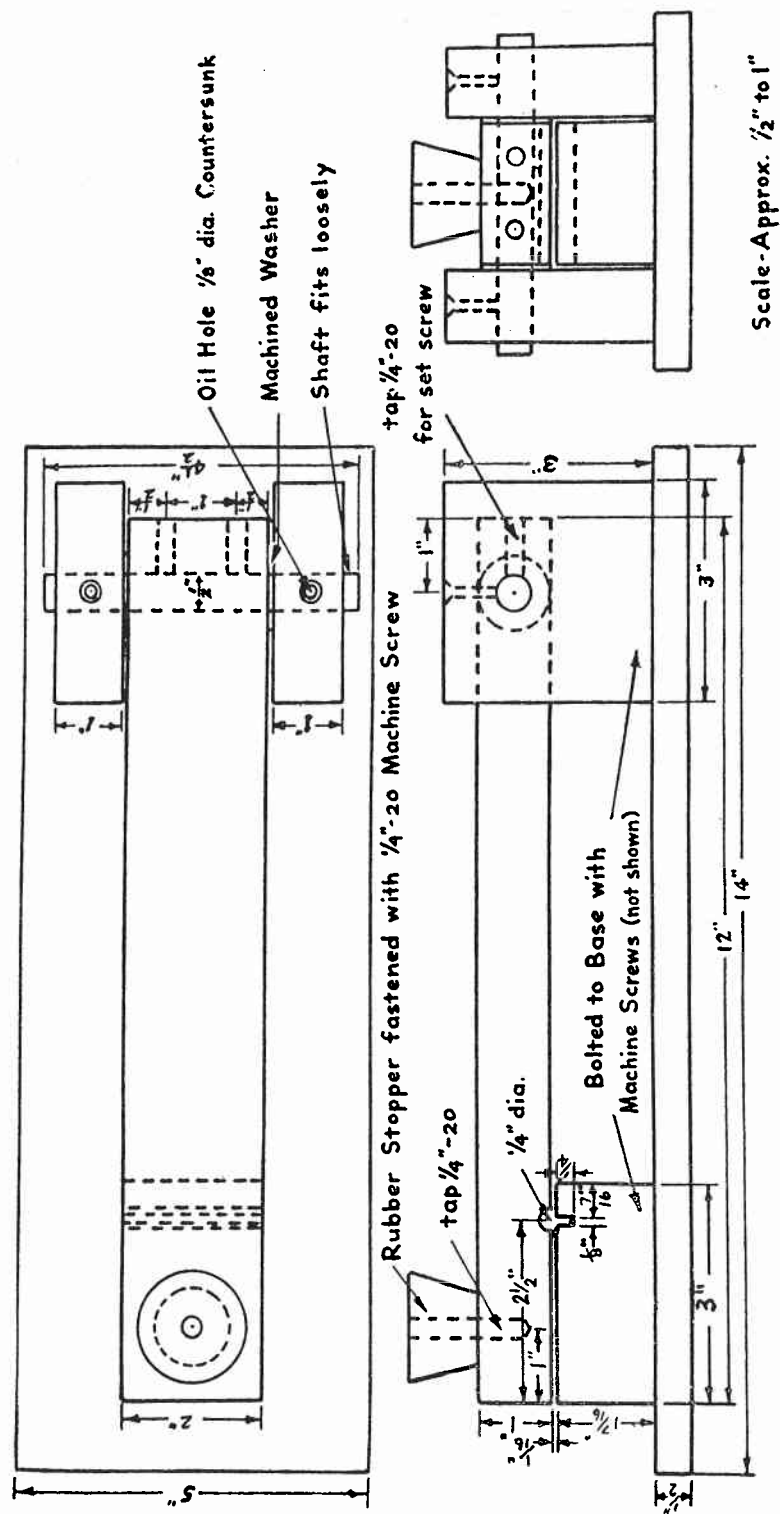


FIGURE 1. SPI low-temperature impact testing machine.

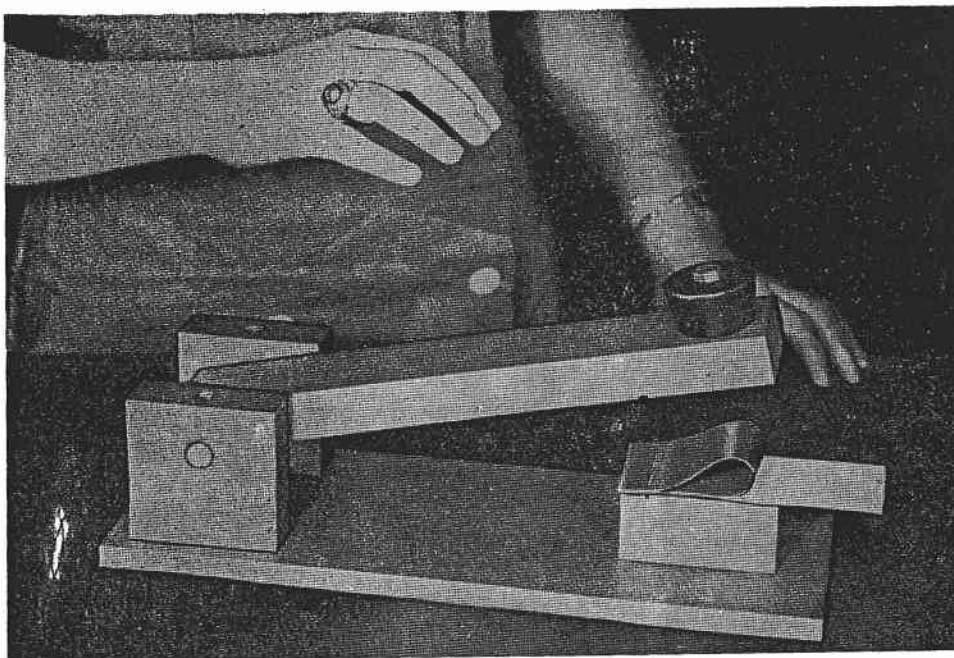


FIGURE 2. *Impact testing machine.*

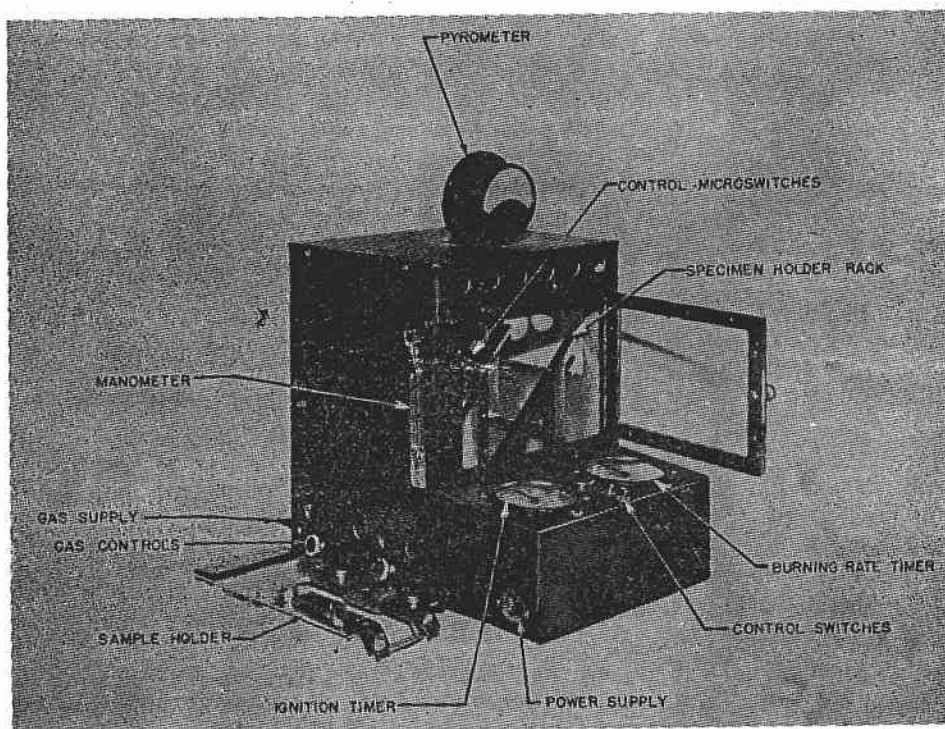


FIGURE 3. *SPI flammability tester.*

4.10. *Flammability.*

4.10.1 *Apparatus and materials.*—The apparatus shall be constructed essentially as shown in figure 3 and shall consist of the following:

4.10.1.1 *Specimen holder.*—A removable, flat, specimen-holding rack, the upper and lower sections of which are separate, shall have

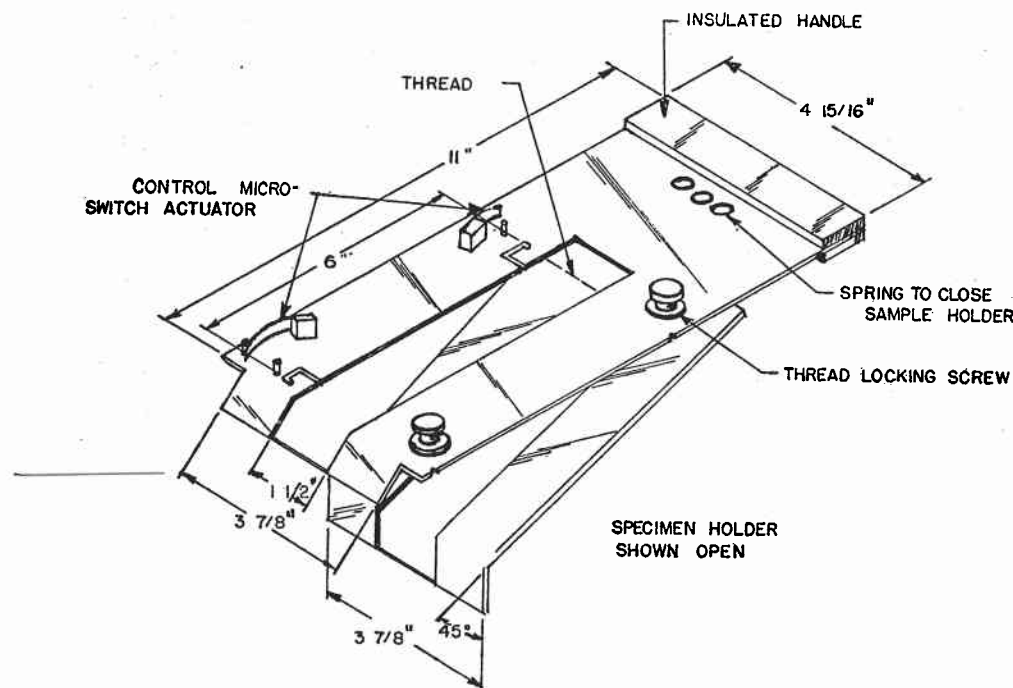


FIGURE 4. *Specimen holder.*

the shape and dimensions shown in figure 4 (sketch of sample-holding rack.) The specimen is supported by tight closure of the upper and lower sections around the sides of the specimen. The center section of the rack contains an open U-shaped area in which burning of the specimen takes place. At the open end of the rack the forked sides are at an angle of 45° for the last inch. Thus, when the rack is slid into the cabinet on runners mounted at a 45° angle, the bent portion of the specimen adjacent to the igniter flame is vertical and the remainder is at 45° .

The switch actuators consist of suitable springs mounted on the side of the rack, one just beyond the curved portion at the open end, and the other at the closed end of the U-shaped holder. The springs are depressed and held in position prior to ignition by means of cotton thread suitably wound across the specimen and securely attached to the rack. As flame reaches these threads, the springs are released, thus activating the microswitches of the stop clocks.

4.10.1.2 *Igniter flame.*—The igniter flame shall be produced at the tip of a No. 22 hypodermic needle jet. The igniter shall be so located in the cabinet that the tip of the needle is $\frac{1}{16}$ in. from the surface of the specimen when the specimen rack is in place.

4.10.1.3 *Cabinet.*—The cabinet shall protect the igniter flame and specimen from air currents during tests, yet contain a suitable door or window for visual operation, provision for inserting the specimen holder, and adjustable vents to supply sufficient air for combustion of the specimen. It should also be capable of rapid ventilation following a test so that all combustion products can be removed between tests. A hood may be used if its exhaust fan is turned off during the test.

4.10.1.4 *Timing mechanism.*—The burning rate shall be determined by a stop clock through microswitches mounted on the specimen-

holder rack. The clock is started when the specimen flame burns the first thread, and is stopped when the thread at the upper end of the holder, 6 in. from the first thread, burns apart. The timing mechanism shall be capable of indicating time interval to 0.1 second.

4.10.1.5 *Butane*.—Unless otherwise specified, butane gas shall be used for the igniter flame.

4.10.1.6 *Thread*.—J. & P. Coats heavy-duty white cotton thread.

4.10.1.7 *Microburner*.

4.10.2 *Test specimens*.

4.10.2.1 Test specimens shall be 3 in. in width and 9 in. in length. They shall be free from folds or wrinkles. Five specimens from each direction (machine and transverse) of a given material shall be tested.

4.10.2.2 *Conditioning*.—The conditioning procedure shall conform to the requirements of procedure B of ASTM D618, Tentative Methods of Conditioning Plastics and Electrical Insulating Materials for Testing.

4.10.3 *Procedure*.

4.10.3.1 After preparing the specimens, the holder shall be threaded so as to depress the switch actuators (springs) at least $\frac{1}{4}$ in. from the edge of the holder. Each actuator shall be separately threaded, the thread passing down through the J-slots and under the upper jaws so that the thread is adjacent to the specimen when the holder is closed.

4.10.3.2 The specimen shall be inserted into the holder so that it extends down into the lock springs and is held firmly between the two wires at the open end of the burning channel. These wires insure that the end of the specimen is always the correct distance from the igniter flame. The sample shall be free from wrinkles or distortion when the holder is closed. The specimen should not extend beyond the outer edge of the lower plate, otherwise the rack may not slide freely on the slide channel on introducing it into the cabinet.

4.10.3.3 Prior to introducing the specimen and holder into the cabinet, both electrical switches shall be set for automatic timing. The needle valve regulating the butane flow shall be adjusted to provide a $\frac{1}{2}$ -in. flame. (When the specimen is in place its surface is $\frac{1}{16}$ in. from the tip of the needle and the flame is just barely flattened against the specimen. This can be checked by using a specimen made of asbestos in place of a plastic specimen.)

4.10.3.4 With the hood fan off, clocks zeroed, and the flame adjusted as mentioned, the door is closed and the specimen holder is then inserted at a constant rate. The holder should be allowed to slide down the rails by gravity, taking about one-half second to travel the length of the slide. Any hesitation in bringing the specimen holder fully into burning position may cause erroneous ignition results.

4.10.3.5 The burning time shall be read from the stop clock and the rate of burning calculated. Results that deviate from the mean value of all tests should be rejected if the deviation of the doubtful value is more than five times the average deviation from the mean obtained by excluding the doubtful value. Such doubtful values shall be discarded and retests made.

5. IDENTIFICATION

5.1 *Labels and literature*.—In order that purchasers may be assured that the general purpose vinyl film actually complies with all requirements of this Commercial Standard, it is recommended that manu-

facturers include the following statement in conjunction with their name and address on labels, invoices, sales literature, etc.:

These (this) ----- comply (complies) with Commercial Standard CS192-53, as developed by the trade, under the procedure of the Commodity Standards Division, and issued by the U. S. Department of Commerce.

5.1.1 The following abbreviated statement is suggested when available space on labels is insufficient for the full statement:

Complies with CS192-53, as developed by the trade, and issued by the U. S. Department of Commerce.

5.2 *Hallmark*.—General purpose vinyl film may carry the hallmark shown in figure 5 to indicate compliance with this Commercial Standard.



FIGURE 5. *Hallmark*.

6. EFFECTIVE DATE

6.1 Having been passed through the regular procedure of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this Commercial Standard was issued by the United States Department of Commerce, effective from May 22, 1953.

EDWIN W. ELY
Chief, Commodity Standards Division.

HISTORY OF PROJECT

In a letter dated August 6, 1952, the Society of the Plastics Industry requested the cooperation of the Commodity Standards Division, Office of Industry and Commerce, in the establishment of a Commercial Standard for general purpose vinyl film, and submitted as a basis for the standard a specification developed by a committee of the SPI.

The Commodity Standards Division distributed copies of the proposed Commercial Standard to representative producers, distributors, testing laboratories, users, and Government agencies, for constructive comment. All comments that were received were discussed at a general conference of the industry held at the National Bureau of Standards on November 18, 1952. Substantially all of the

suggestions for modification contained in the comments were approved by the conference, and the Commodity Standards Division was instructed to submit the revised draft to the industry generally for written acceptance.

Accordingly, the recommended Commercial Standard was circulated to the trade on January 28, 1953. On April 22, the Commodity Standards Division issued an announcement that acceptances had been received representing a satisfactory majority of the general purpose vinyl plastic film business, and that the standard, designated Commercial Standard 192-53, would become effective May 22, 1953.

Project Manager: F. W. Reynolds, Commodity Standards Division, Office of Industry and Commerce.

Technical Advisers: Dr. Gordon M. Kline and Frank W. Reinhart, Organic and Fibrous Materials Division, National Bureau of Standards.

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, Office of Industry and Commerce, U. S. Department of Commerce, which acts as secretary for the committee.

ROGER C. BOYD, Chairman

Processors:

FRED S. STRAUSS, Harte & Co., Inc., 267 Fifth Avenue, New York 16, N. Y.

A. J. HANLEY, Respro, Inc., Wellington Avenue, Cranston 10, R. I.

ALVIN V. ROBERTS, Ross & Roberts, Inc., 1299 West Broad Street, Stratford, Conn.

Materials manufacturers:

ROGER C. BOYD, Bakelite Co., River Road, Pound Brook, N. J.

DAVID S. PLUMB, Monsanto Chemical Co., Springfield, Mass.

GEORGE A. FOWLES, B. F. Goodrich Chemical Co., Rose Building, Cleveland, Ohio.

Distributors:

EPHRAIM FREEDMAN, R. H. Macy & Co., Inc., Herald Square, New York, N. Y.
(representing National Retail Dry Goods Association, Inc.).

Mail Order Association of America—representative to be appointed.

Limited Price Variety Stores Association—representative to be appointed.

Users:

T. CARSON O'CONNELL, Carson Glove Co., Box 90, San Rafael, Calif.

SAM J. JOHNSON, Clopay Corp., Cincinnati 14, Ohio

C. P. MACIVER, Victory Plastics Co., Apsley Street, Hudson, Mass.

AMENDMENTS

Amendment No. 1, issued April 22, 1954.

Add the following sentence to paragraph 3.7:

The average shall be determined from measuring 5 samples taken across the width of the sheet, 2 of which samples shall be taken directly adjacent to the longitudinal edges of the sheet, the remaining 3 being equally spaced between these 2.

Amendment No. 2, issued December 1, 1954.

Add the following sentence to paragraph 5.2:

Whenever the hallmark is shown on vinyl film, the hallmark shall state the gage of the film on which it is applied.

ACCEPTANCE OF COMMERCIAL STANDARD

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this Commercial Standard.

Date _____

Commodity Standards Division
Office of Industry and Commerce
U. S. Department of Commerce
Washington 25, D. C.

WITHDRAWN

Gentlemen:

We believe that this Commercial Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

Production ¹ Distribution ¹ Purchase ¹ Testing ¹

of general purpose vinyl plastic film. We reserve the right to depart from it as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer _____
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer _____

Organization _____
(Fill in exactly as it should be listed)

Street address _____

City, zone, and State _____

¹ Underscore which one. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial Standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of Commercial Standards is to establish, for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the standard where practicable in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of Commercial Standards on a Nation-wide basis is fourfold: first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

ACCEPTORS

The organizations listed below have individually accepted this standard for use as far as practicable in the production, distribution, testing, purchase, or use of general purpose vinyl plastic film. In accepting this standard they reserved the right to depart from it as they individually deem advisable. It is expected that articles which actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

ASSOCIATIONS

(General Support)

Industrial Mineral Fiber Institute, New York, N. Y.
National Council of Women of the U. S., New York, N. Y.
National Retail Dry Goods Association, New York, N. Y.
Society of the Plastics Industry, The, New York, N. Y.

FIRMS AND OTHER INTERESTS

Arkwright Merchandising Corp., New York, N. Y.
Bakelite Company, a Division of Union Carbide & Carbon Corp., New York, N. Y.
Barrett Division, Allied Chemical & Dye Corp., New York, N. Y. (General support.)
Blacher, B., New York, N. Y.
Bolta Products Sales, Inc., Lawrence, Mass.
Borowski, Raymond P., Chicago, Ill.
Carson Glove Co., Plastic Division, San Rafael, Calif.
Chrysler Corp., Rubber & Plastics Laboratory, Central Engineering Division, Detroit, Mich.
Clorox Corp., Cincinnati, Ohio
Diamond Alkali Co., Cleveland, Ohio
Dow Chemical Co., The, Midland, Mich.
Elm Coated Fabrics Co., New York, N. Y.
Emery Industries, Inc., Cincinnati, Ohio
Firestone Plastics Co., Pottstown, Pa.
General Tire & Rubber Co., The, Akron, Ohio
Goodrich, B. F., Chemical Co., Cleveland, Ohio
Goodyear Tire & Rubber Co., Inc., The, Akron, Ohio
Gordon-Lacey Chemical Products Co., Inc., Maspeth, L. I., N. Y.

Hall, C. P., Company of Illinois, Chicago, Ill. (General support.)
Harte & Co., Inc., New York, N. Y.
Hodgman Rubber Co., Framingham, Mass. (General support.)
India Rubber World, New York, N. Y. (General support.)
Industrial Tape Corp., New Brunswick, N. J.
Kalitron, Inc., Louisville, Ky.
Miller-Warden Associates, Swarthmore, Pa. (General support.)
Monsanto Chemical Co., Springfield, Mass.
Naugatuck Chemical Division of United States Rubber Co., Naugatuck, Conn.
Nixon Nitration Works, Nixon, N. J.
Pantasote Co., The, Passaic, N. J.
Penney, J. C., Co., Inc., New York, N. Y.
Pittsburgh Coke & Chemical Co., Pittsburgh, Pa.
Plastic Film Corp., New York, N. Y.
Respro, Inc., Cranston, R. I.
Ross & Roberts Co., a Division of Pollak Industrial Corp., Stratford, Conn.
Royal Electric Co., Inc., Pawtucket, R. I.
Rubber Corporation of America, Brooklyn, N. Y.
Scars, Roebuck & Co., Chicago, Ill.
South Florida Test Service, Miami, Fla.
Southbridge Plastics Co., Southbridge, Mass.
Spiegel, Inc., Chicago, Ill.
Stewart Hartshorn Co., Oswego, N. Y.
Sub-Tropical Testing Service, Miami, Fla.
Van Cleef Bros., Division of Johns-Manville Corp., Chicago, Ill.
Victory Plastics Co., Hudson, Mass.
Visking Corp., The, Plastics Division, Terre Haute, Ind.

U. S. GOVERNMENT

Agriculture, U. S. Department of, Washington D. C.

COMMERCIAL STANDARDS

CS No.

0. Commercial standards and their value to business.
1. Clinical thermometers.
2. Mopsticks.
3. Stoddard solvent.
4. Staple porcelain (all-clay) plumbing fixtures.
5. Pipe nipples; brass, copper, steel, and wrought iron.
6. Wrought-iron pipe nipples. Superseded by CS5.
7. Standard weight malleable iron or steel screwed unions.
8. Gage blanks.
9. Builders' template hardware.
10. Brass pipe nipples. Superseded by CS5.
11. Moisture regains of cotton yarns.
12. Fuel oils.
13. Dress patterns.
14. Boys' sport and dress shirt (woven fabrics) size measurements.
15. Men's pajama sizes (made from woven fabrics).
16. Wall paper.
17. (Withdrawn).

CS No.

18. Hickory golf shafts.
19. Foundry patterns of wood.
20. Vitreous china plumbing fixtures.
21. Interchangeable ground-glass joints, stopcocks, and stoppers.
22. Builders' hardware (nontemplate).
23. Feldspar.
24. Screw threads and tap-drill sizes.
25. Special screw threads. Superseded by CS24.
26. Aromatic red cedar closet lining.
27. Mirrors.
28. Cotton fabric tents, tarpaulins, and covers.
29. Staple seats for water-closet bowls.
30. (Withdrawn).
31. Wood shingles.
32. Cotton cloth for rubber and pyroxylin coating.
33. Knit underwear (exclusive of rayon).
34. Bag, case, and strap leather.
35. Hardwood plywood.
36. Fourdrinier wire cloth.
37. Steel bone plates and screws.
38. Hospital rubber sheeting.
39. (Withdrawn).

WITHDRAWN

CS No.

40. Surgeons' rubber gloves.
41. Surgeons' latex gloves.
42. Structural fiber insulating board.
43. Grading of sulphonated oils.
44. Apple wraps.
45. Douglas fir plywood.
46. Hosiery lengths and sizes.
47. Marking of gold-filled and rolled-gold-plate articles other than watchcases.
48. Domestic burners for Pennsylvania anthracite (underfeed type).
49. Chip board, laminated chip board and miscellaneous boards for bookbinding purposes.
50. Binders board for bookbinding and other purposes.
51. Marking articles made of silver in combination with gold.
52. Mohair pile fabrics (100-percent mohair plain velvet, 100-percent mohair plain frieze, and 50-percent mohair plain frieze).
53. Colors and finishes for cast stone.
54. Mattresses for hospitals.
55. Mattresses for institutions.
56. Oak flooring.
57. Book cloths, buckrams, and impregnated fabrics for bookbinding purposes except library bindings.
58. Woven elastic fabrics for use in overalls (overall elastic webbing).
59. Textiles—testing and reporting.
60. Hardwood dimension lumber.
61. Venetian blinds (grade A, custom-made).
62. Colors for kitchen accessories.
63. Colors for bathroom accessories.
64. Walnut veneers.
65. Methods of analysis and of reporting fiber composition of textile products.
66. Marking of articles made wholly or in part of platinum.
67. Marking articles made of karat gold.
68. Liquid hypochlorite disinfectant, deodorant, and germicide.
69. Pine oil disinfectant.
70. Phenolic disinfectant (emulsifying type) (published with CS71).
71. Phenolic disinfectant (soluble type) (published with CS70).
72. Household insecticide (liquid spray type).
73. Old growth Douglas fir, Sitka spruce, and western hemlock standard stock doors.
74. Solid hardwood wall paneling.
75. Automatic mechanical draft oil burners designed for domestic installations.
76. Hardwood interior trim and molding.
77. Enameled cast-iron plumbing fixtures.
78. Ground and polished lenses for sun glasses (published with CS79).
79. Blown, drawn, and dropped lenses for sun glasses (published with CS78).
80. Electric direction signal systems other than semaphore type for commercial and other vehicles subject to special motor vehicle laws (after market).
81. Adverse-weather lamps for vehicles (after market).
82. Inner-controlled spotlamps for vehicles (after market).
83. Clearance, marker and identification lamps for vehicles (after market).
84. Electric tail lamps for vehicles (after market).
85. Electric license-plate lamps for vehicles (after market).
86. Electric stop lamps for vehicles (after market).
87. Red electric warning lanterns.
88. Liquid burning flares.
89. Hardwood stair treads and risers.
90. Power cranes and shovels.
91. Factory-fitted Douglas fir entrance doors.
92. Cedar, cypress, and redwood tank stock lumber.
93. Portable electric drills (exclusive of high frequency).
94. Calking lead.
95. Lead pipe.
96. Lead traps and bends.
97. Electric supplementary driving and passing lamps for vehicles (after market).
98. Artists' oil paints.
99. Gas floor furnaces—gravity circulating type.

CS No.

100. Porcelain-enameled steel utensils.
101. Flue-connected oil-burning space heaters equipped with vaporizing pot-type burners.
102. (Reserved for "Diesel and fuel-oil engines.")
103. Rayon Jacquard velour (with or without other decorative yarn).
104. Warm-air furnaces equipped with vaporizing type oil burners.
105. Mineral wool insulation for low temperatures.
106. Boys' pajama sizes (woven fabrics).
107. (Withdrawn.)
108. Treading automobile and truck tires.
109. Solid-fuel-burning forced-air furnaces.
110. Tire repairs—vulcanized (passenger, truck, and bus tires).
111. Earthenware (vitreous-glazed) plumbing fixtures.
112. Heterogeneous fiber wallboard.
113. Oil-burning floor furnaces equipped with vaporizing pot-type burners.
114. Hospital sheeting for mattress protection.
115. Porcelain-enameled tanks for domestic use.
116. Bituminized-fiber drain and sewer pipe.
117. Mineral wool insulation for heated industrial equipment.
118. Marking of jewelry and novelties of silver.
- (E) 119. Dial indicators (for linear measurements)
120. Standard stock ponderosa pine doors.
121. Women's slip sizes (woven fabrics).
122. Western softwood plywood.
123. Grading of diamond powder.
- (E) 124. Master disks.
125. Prefabricated homes.
126. Tank-mounted air compressors.
127. Self-contained mechanically refrigerated drinking water coolers.
128. Men's sport shirt sizes—woven fabrics (other than those marked with regular neckband sizes).
129. Materials for safety wearing apparel.
130. Color materials for art education in schools.
131. Industrial mineral wool products, all types—testing and reporting.
132. Hardware cloth.
133. Woven wire netting.
134. Cast aluminum cooking utensils (metal composition).
135. Men's shirt sizes (exclusive of work shirts).
136. Blankets for hospitals (wool, and wool and cotton).
137. Size measurements for men's and boys' shorts (woven fabrics).
138. Insect wire screening.
139. Work gloves.
140. Testing and rating convectors.
141. Sine bars, blocks, plates, and fixtures.
142. Automotive lifts.
143. Standard strength and extra strength perforated clay pipe.
144. Formed metal porcelain enameled sanitary ware.
145. Testing and rating hand-fired hot-water supply boilers.
146. Gowns for hospital patients.
147. Colors for molded urea plastics.
148. Men's circular flat- and rib-knit rayon underwear.
149. Utility type house dress sizes.
150. Hot-rolled rail steel bars (produced from T-section rails).
151. Body measurements for the sizing of apparel for infants, babies, toddlers, and children (for the knit underwear industry).
152. Copper naphthenate wood-preservative (spray, brush, dip application).
153. Body measurements for the sizing of apparel for girls (for the knit underwear industry).
154. (Reserved for "Wire rope.")
155. Body measurements for the sizing of boys' apparel (knit underwear, shirts, trousers).
156. Colors for polystyrene plastics.
157. Ponderosa pine and sugar pine plywood.
158. Model forms for girls' apparel.
159. Sun glass lenses made of ground and polished plate glass, thereafter thermally curved.
160. Wood-fiber blanket insulation (for building construction).

¹ Where "(E)" precedes the CS number, it indicates an emergency commercial standard, drafted under war conditions.

OS No.

161. "Standard grade" hot-dipped galvanized ware (coated after fabrication).
162. Tufted bedspreads.
163. Standard stock ponderosa pine windows, sash, and screens.
164. (Reserved for "Concrete mixers.")
165. Zinc naphthenate wood-preservative (spray, brush, dip application).
166. Size measurements for men's work trousers.
167. Automotive and general service copper tube.
168. Polystyrene plastic wall tiles, and adhesives for their application.
169. Galvanized ware fabricated from *pregalvanized* steel sheets.
170. Cotton flour-bag (sack) towels.
171. Hardwood veneered doors.
172. Brass trim for water-closet bowls, tanks, and urinals (dimensional standards).
173. Heavy-duty alpha-cellulose-filled melamine tableware.
174. 140-F dry-cleaning solvent.
175. Circular-knitted gloves and mittens.
176. Prefinished wall panels.

OS No.

177. Bituminous-coated metal septic tanks (single compartment, residential).
178. Testing and rating ventilating fans (axial and propeller types).
179. Installation of attic ventilation fans in residences.
180. Model forms for boys' apparel.
181. Water-resistant organic adhesives for installation of clay tile.
182. Latex foam mattresses for hospitals.
183. Boys' trouser size measurements.
184. Steel fence posts—field and line type (produced from hot-rolled steel sections).
185. Wool felt.
186. Boys' sports outerwear size measurements.
187. Men's work shirt sizes.
188. Service-weight cast-iron soil pipe and fittings.
189. Women's circular flat-knit rayon underwear sizes.
190. Standard stock double-hung wood window units.
191. Flammability of clothing textiles.
192. General purpose vinyl plastic film.

NOTICE.—Copies of Commercial Standards may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. A price list may be obtained from the Commodity Standards Division, Office of Industry and Commerce, U. S. Department of Commerce, Washington 25, D. C.

WITHDRAWN

U.S. Department of Commerce
National Institute of Standards and Technology (NIST)
National Center for Standards and Certification Information (NCSCI)
Building 820, Room 164
Gaithersburg, Maryland 20899
Telephone: (301)975-4040; Fax: (301)926-1559

ACKNOWLEDGMENT OF INQUIRY

In response to your request, please see the box(es) checked below:

☐ The enclosed list of standards, which may be of interest to you, contains the acronym of the standards-developing organization, the standards designation number, and title. Copies and/or additional information can be obtained directly from the respective organizations (see enclosed booklet).

☐ Military (MIL) and Department of Defense (DOD) specifications, standards, handbooks and inquiries on select technical manuals, forms and documents can be obtained from Defense Automated Printing Service, 700 Robbins Avenue, Building 4, Section D, Philadelphia, PA 19111-5094, Telephone (215)697-2179 or 697-2667; Fax (215)697-2978. Federal (FED) specifications, standards and handbooks can be obtained from regional General Services Administration (GSA) Business Service Centers listed on the back of this form.

☒ Ref: Your request for Commercial Standard CS192-53.

Enclosed is additional information and copy of withdrawn CS192-53, General Purpose Vinyl Plastic Film.

The organizations listed on the enclosed 'Sources for Purchasing Standards' can provide copies of standards, documents and/or give additional contact sources (examples: ASTM, SPI and others).

Our reference collection is open to the public Monday through Friday, 8:30 A.M. to 5:00 P.M. EST.

Information Specialist (signature)

Date

GENERAL SERVICES ADMINISTRATION - SMALL BUSINESS CENTERS

SERVICE AREA	TELEPHONE/FAX	ADDRESS
Region 1 Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	Tel: (617) 565-8100 Fax: (617) 565-8101	Business Service Center (1AB) T.P. O'Neill, Jr. Federal Building 10 Causeway Street, Room 290 Boston, MA 02222
Region 2 New Jersey, New York, Puerto Rico, U.S. Virgin Islands	Tel: (212) 264-1234 Fax: (212) 264-2760	Program Support Division (2AR) Business Services, Room 18-130 26 Federal Plaza New York, NY 10278
Region 3 Delaware, Maryland and Virginia (except Washington, D.C., metropolitan area), Pennsylvania, West Virginia	Tel: (215) 656-5525 Fax: (215) 656-6404	Program Services Division (3ADS) Wanamaker Building 100 Penn Square East, Room 808 Philadelphia, PA 19107
National Capital Region (NCR) District of Columbia and the Washington, D.C., metropolitan area	Tel: (202) 708-5804 Fax: (202) 205-2872	Business Service Center (WCA4) 7th & D Streets, SW, Room 1050 Washington, DC 20407
Region 4 Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee	Tel: (404) 331-5103 Fax: (404) 331-1813	Office of Enterprise Develop. (4E) 401 West Peachtree Street, Room 2832 Atlanta, GA 30365-2550
Region 5 Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin	Tel: (312) 353-5383 Fax: (312) 353-5385	Business Service Center (5ADB) 230 South Dearborn Street, Room 3714 Chicago, IL 60604
Region 6 Iowa, Kansas, Missouri, Nebraska	Tel: (816) 926-7203 Fax: (816) 823-1167	Office of Enterprise Development (6ADB) 1500 East Bannister Road, Room 1160 Kansas City, MO 64131
Region 7 Arkansas, Louisiana, New Mexico Oklahoma, Texas	Tel: (817) 978-3284 Fax: (817) 978-4867	Business Service Center (7ADB) 819 Taylor Street, Room 11A09 Fort Worth, TX 76102
Region 8 Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming	Tel: (303) 236-7408 Fax: (303) 236-7403	Business Service Center (8PB-B) Denver Federal Center Building 41, Room 145 P.O. Box 25006 Denver, CO 80225
Region 9 Arizona, California, Hawaii, Nevada	Tel: (415) 522-2700 Fax: (415) 522-2705	Office of Enterprise Development (9ADB) 450 Golden Gate Avenue 5th Floor, Room 6514 San Francisco, CA 94102
Satellite Office	Tel: (213) 894-3210 Fax: (213) 894-3473	Office of Enterprise Development (9ADB-L) 300 N. Los Angeles Street, Room 3259 Los Angeles, CA 90012
Region 10 Alaska, Idaho, Oregon, Washington	Tel: (206) 931-7956 Fax: (206) 804-4887	400 15th Street, SW Auburn, WA 98001-6599